

Serial No. 09/228,562
April 7, 2004
Reply to the Office Action dated June 5, 2003
Page 2 of 11

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (previously presented): An input-output balanced filter comprising:
first and second input terminals and first and second output terminals;
a first LC filter circuit unit including a common side line, said first LC filter circuit unit being connected between said first input terminal and said first output terminal;
a second LC filter circuit unit including a common side line, said second LC filter circuit unit being connected between said second input terminal and said second output terminal;
a common line defined by an element that is independent of said first LC filter circuit unit and said second LC filter circuit unit;
wherein said common side line of said first LC filter circuit unit is electrically and directly connected to said common side line of said second LC filter circuit unit via said common line; and
an approximate midpoint of said common line is defined as a common phase reference point of each of said first and second LC filter circuit units.

Claim 2 (original): The input-output balanced filter according to claim 1, wherein the first LC filter circuit unit includes at least one LC parallel resonant circuit.

Claim 3 (original): The input-output balanced filter according to claim 2, wherein the at least one LC parallel resonant circuit includes an inductor and a capacitor.

Claim 4 (original): The input-output balanced filter according to claim 1, wherein the first LC filter circuit unit includes at least two LC parallel resonant circuits.

Claim 5 (original): The input-output balanced filter according to claim 1, wherein

Serial No. 09/228,562

April 7, 2004

Reply to the Office Action dated June 5, 2003

Page 3 of 11

the second LC filter circuit includes at least one LC parallel resonant circuit.

Claim 6 (original): The input-output balanced filter according to claim 5, wherein the at least one LC parallel resonant circuit includes an inductor and a capacitor.

Claim 7 (original): The input-output balanced filter according to claim 1, wherein the second LC filter circuit unit includes at least two parallel resonant circuits.

Claim 8 (original): The input-output balanced filter according to claim 1, wherein said common line includes at least one inductor.

Claim 9 (original): The input-output balanced filter according to claim 1, wherein said filter has a layered unit structure and said common line is disposed inside of said layered unit structure.

Claim 10 (original): The input-output balanced filter according to claim 1, wherein said filter has a layered unit structure and said common line is disposed on a surface of said layered unit structure.

Claim 11 (previously presented): An input-output balanced filter comprising:

- a plurality of insulating layers;
- first and second input terminals and first and second output terminals;
- a first LC filter circuit unit connected between said first input terminal and said first output terminal and having a plurality of first coil conductive patterns, first capacitor conductive patterns and a common side line;
- a second LC filter circuit unit connected between said second input terminal and said second output terminal and having a plurality of second coil conductive patterns, second capacitor conductive patterns and a common side line; and
- a common line conductive pattern defined by an element that is independent of

Serial No. 09/228,562

April 7, 2004

Reply to the Office Action dated June 5, 2003

Page 4 of 11

said first LC filter circuit unit and said second LC filter circuit unit;

wherein said common side line of said LC filter circuit unit is electrically and directly connected to said common side line of said second LC filter circuit unit via said common line conductive pattern; and

an approximate midpoint of said common line is defined as a common phase reference point of each of said first and second LC filter circuit units.

Claim 12 (original): The input-output balanced filter according to claim 11, wherein the first LC filter circuit unit includes at least one LC parallel resonant circuit.

Claim 13 (original): The input-output balanced filter according to claim 12, wherein the at least one LC parallel resonant circuit includes an inductor and a capacitor.

Claim 14 (original): The input-output balanced filter according to claim 11, wherein the first LC filter circuit unit includes at least two LC parallel resonant circuits.

Claim 15 (original): The input-output balanced filter according to claim 11, wherein the at least one LC parallel resonant circuit includes an inductor and a capacitor.

Claim 16 (original): The input-output balanced filter according to claim 15, wherein the second LC filter circuit unit includes at least two parallel resonant circuits.

Claim 17 (original): The input-output balanced filter according to claim 11, wherein said common line includes at least one inductor.

Claim 18 (original): An input-output balanced filter according to claim 11, wherein said filter has a layered unit structure and said common line conductive pattern

Serial No. 09/228,562
April 7, 2004
Reply to the Office Action dated June 5, 2003
Page 5 of 11

is disposed inside of said layered unit structure.

Claim 19 (original): An input-output balanced filter according to claim 11, wherein said filter has a layered unit structure and said common line conductive pattern is disposed on a surface of said layered unit structure.

Claim 20 (original): An input-output balanced filter according to claim 11, wherein said common line conductive pattern has an axially symmetric pattern.

Claim 21 (previously presented): An input-output balanced filter comprising:

- a first LC bandpass filter circuit unit including a plurality of LC parallel resonant circuits electromagnetically connected to one another;
- a second bandpass filter circuit unit including a plurality of LC parallel resonant circuits electromagnetically connected to one another;
- an inductor defined by an element that is independent of said first LC filter circuit unit and said second LC filter circuit unit for electrically and directly connecting a common side line of the first LC bandpass filter circuit unit to a common side line of the second LC bandpass filter circuit unit;
- first and second input terminals provided with one of the LC parallel resonant circuits of the first LC bandpass filter circuit unit and one of the LC parallel resonant circuits of the second LC bandpass filter circuit unit, respectively;
- first and second output terminals provided with another of the LC parallel resonant circuits of the first LC bandpass filter circuit unit and another of the LC parallel resonant circuits of the second LC bandpass filter circuit unit, respectively; wherein an approximate midpoint of the common line is defined as a common phase reference point of each of the first and second LC bandpass filter units.